## NATURALISTS' NOTES FROM THE OLD SPANISH MAIN.

*Our Search for a Wilderness.* An account of two ornithological expeditions to Venezuela and to British Guiana. By Mary Blair Beebe and C. William Beebe. Pp. xix+408. (New York: Henry Holt and Co.; London: Constable and Co., Ltd., 1910.) Price 10*s.* 6*d.* net.

A FEW years ago the authors wrote a pleasant little book, "Two Bird-lovers in Mexico." The present "Search for a Wilderness" did not prove difficult, because they found one in the mangrove swamps on the old Spanish main, opposite the island of Trinidad. They hired a little sloop, and cruised about on the San Juan river, which falls into the Gulf of Parian. The mud-flats teemed with life, and after nightfall arose the many quaint and mysterious sounds of the tropical jungle. For one of these sounds, a muffled choking, they found an unexpectedly simple explanation. The anaconda makes its lair in a hole in the bank at the waters' edge. When the rising or falling tide laps into or out of the vacated mudhole, a big bubble of air frees itself with a sudden gasping sob. Further up the river they visited La Brea, the strange lake of pitch in the midst of a region of primeval forest.

Whilst on this visit to Venezuela the collecting of birds was incidental; they went in the spring of 1909 to British Guiana, accompanied by an assistant, to collect birds in earnest; but Mr. Beebe is certainly not a destructive ornithologist. His party killed only about one hundred specimens, and these because of some special interest, and there occurs the following passage which deserves quoting. "We were glad to find that the most difficult privilege to obtain is a permit to collect birds, and the very stringent laws in this respect are an honour to the Governor (Sir Frederick Hodgson, K.C.M.G.), and his colonial officials. Thanks to the absence of the plume and general milliner hunter, the game hog, and the wholesale collector, birds are abundant and tame."

From Georgetown as their centre they made several trips. Hospitably entertained, and being spared all the usual annoyances of transportation, they visited, by launch, the Hoorie gold mines in the north-western corner of the colony, an excellent place for studying the ways of its wild inhabitants. Thence they made their way back to the capital, threading little-known rivers and creeks in a canoe, and for five days they were paddled, portaged, towed, and pushed through a wonderland abounding in beautiful birds, butterflies, and orchids, and they were made welcome for the night at little isolated Indian missions.

Next followed a trip up the Essequibo and one of its tributaries to the Aremu mine. In these waters they saw the little freshwater flying fish, *Carnegiella spigatus,* which, however, "did not leave the surface entirely, but skimmed steadily along in a straight line, with the tip of the deep keel of the abdomen just cutting the surface." The travellers were keen and lucky enough to make many interesting observations, which they have recorded in a pleasantly easy style, illustrated with numerous good photographs of scenery and scenes of many creatures, from man to insects. A narrative sparkling with incidents needs no froth like the following:—"Most curious of all were the Loricates or armoured catfish, with a double row of large overlapping scales enclosing their body from head to tail. Like the Hoatzin among the birds, these fish are strange relics of the past, preserved almost unchanged from the ancient fossil Devonian fauna." Relics of the past, by all means, but what have the Siluroid Teleostean fishes to do with the Devonian epoch?

A visit to the savannahs and lagoons of the Abary river, with its abundance of bird life, for instance, large colonies of the quaint Hoatzin, was cut short by a broken wrist suffered by the lady. We wish them many more such pleasant trips, and may they not be undeceived in their optimistic opinion as to "the falsity of most of the universal slanders on a tropical climate."

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## GRAPHICAL CHEMISTRY.

*Leitfaden der graphischen Chemie.* By Dr. R. Kremann. Pp. 36+5 modelle. (Berlin: Verlag von Gebrüder Borntraeger, 1910.) Price 6.60 marks.

IN view of the importance of a knowledge of the equilibrium relationships which are involved when two or more substances are brought together in different quantities under different conditions of temperature and pressure, and of the rapid progress which has been made in recent years in the study of more complicated cases of such equilibria, it is essential that the student of physical chemistry should be familiar with the various methods which are used for the graphic representation of experimental results.

There can be no doubt that the interpretation of the space models, which are employed with great advantage to depict the equilibrium relationships of ternary and quaternary systems, offer considerable difficulties to those who are not familiar with the subject. This is the author's experience, and the issue of a series of five adjustable cardboard models, with an explanatory guide, is intended to facilitate the acquirement of a knowledge of the rudiments of graphical chemistry.

The cardboard models, which are made to scale from experimental data, represent respectively the equilibrium relationships in the following systems—(1) Silver nitrate and water (2) potassium sulphide, magnesium sulphate and water (3) tin, lead and bismuth (4) ammonium nitrate, water, methyl alcohol and ethyl alcohol (5) water and the reciprocal pairs of salts

sodium chloride + ammonium hydrogen carbonate $\rightleftarrows$ ammonium chloride + sodium hydrogen carbonate.

These systems afford sufficient material for an exposition of the various modes of graphic representation, but it is very doubtful whether prepared models of this character can be of much service to the student whose aim is thoroughly to understand the connection between the space models and the actual experimental data. In the reviewer's opinion the requisite

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familiarity can only be obtained when these data are directly utilised by the student in the actual construction of equilibrium models. This demands the expenditure of considerable time, but the results obtained are incomparably better than those which follow from the manipulation of prepared models. On the other hand, the cardboard models are to be preferred to the plane projections which form the usual text-book method of graphic representation. From this point of view the series of models may be found to be useful, anl would have been more so if the explanatory matter in the accompanying text had been considerably extended.

## AMATEUR ASTRONOMY.

*The Amateur Astronomer.* By Gideon Riegler. Translated by G. A. Clarke. Pp. 319, with 112 illustrations. (London: T. Fisher Unwin, 1910.) Price 3*s.* 6*d.* net.

DESPITE the host of astronomy books which has appeared in recent years, there may be room for a well-written, concise guide-book for the beginner in practical work; but, even if there is, we fear that the volume under review does not fill it adequately.

The author first deals with the questions of site, instruments, books, &c., and then proceeds to give a series of notes on the characteristics of the individual objects observable with a modest equipment. Thus the constellations are taken, and the peculiarities of selected individual stars described. Then the same form of treatment is given to double-stars, star-clusters and nebulæ, and variable stars, followed by a chapter describing solar features. In the chapter on the moon, which comes next, a large number of individual craters, plains, &c., are described, but, in the absence of a complete map, the beginner will find, despite the inclusion of undefined latitude and longitude, that some of the smaller features figured are not easy to locate. Chapters on the planets, comets, and meteorites and shooting stars complete the tale.

The general scheme of the work is not unattractive, but grave faults mar its execution. Simple points are treated discursively, whilst more difficult ones, on which the amateur should have clear, if elementary, information, are passed over with one or two imposing terms. An example or two will serve to show that it would have been better to omit many items altogether; dogmatic statements may convince the beginner, but the greatest care should be taken to convince him rightly.

For example, oxygen and cadmium (p. 154) are *not* exceptionally prominent elements in the sun, and certainly do not provide the crucial difference between its spectrum and that of Aldebaran; nor is mercury an outstanding feature of the latter. But worse follows, for we are informed that, while hydrogen is not represented in the spectrum of Betelgeuse, thallium is such a prominent feature "that its lines stand out quite plainly, *in spite of the great distance of the star*"; the italics are ours. There are only two or three pages of spectroscopical details, but it is a great pity that they were ever published.

Other matters, apart from spectroscopy, could be quoted to the same effect, but the above will probably suffice to show that the book is marred by serious faults, dangerous for the beginner.

It only remains to add that the work often bears the impress of translation; long and involved sentences are not uncommon, and such inversions as "6 magnitude," "4·5 magnitude," used almost throughout, are annoying.

W. E. ROLSTON.

## OUR BOOK SHELF.

*A Guide for Medicine and Surgery, compiled for Nurses. A Handbook for Nurses.* By Sydney Welham. Pp. ix+230. (London: Mills and Boon, Ltd., 1910.) Price 3*s.* 6*d.* net.

IN order to do their work satisfactorily, nurses require some knowledge of the principles of medicine and surgery. This is fully recognised in every modern hospital, and due provision is made for instruction of the nursing staff in the elements of anatomy, physiology, pathology, medicine, and surgery. Courses of lectures on these subjects are arranged and the nurses are encouraged to supplement lectures by reading. There is no doubt that a small handbook, such as the volume under review, will be found very useful for purposes of reference, although it makes no attempt to replace the recognised text-books. The style is simple and direct, the type is clear, the index is admirable, while a glossary of medical terms, a list of Latin phrases commonly used in prescriptions, with many other practical tables, diet scales, recipes, &c., greatly enhance the value of the book. It is eminently practical and convenient.

It would be ungracious to criticise a small volume which deals with every branch of medicine in 230 pages on the ground that it did not contain original matter. It succeeds in giving a great deal of information, and the views expressed are in accordance with modern thought. In a short preface the author disclaims any attempt to teach nursing, but, nevertheless, many of his hints will be useful even to nurses of considerable experience, while it will be of real value to young probationers. It will help them to understand the cases that come under their care, it will enable them to follow clinical instruction in the wards, and it will serve as a handbook on which they can rely for assistance in practical emergencies, and also when they are preparing themselves for examinations.

*The Death-dealing Insects and their Story.* By C. Conyers Morrell. (Manchester: H.A.W. Offices, 7 Brazenose Street, 1910.) Price 1*s.* net.

THIS little book is one of the many which have been recently published for the purpose of instructing the laity regarding recent discoveries in connection with insects and disease. It is one of the best of them, and possesses a good style without being too diffuse. The connection of mosquitoes, tsetse-flies, ticks, and fleas with malaria, elephantiasis, sleeping-sickness, tick fever, and plague are described in a manner which will appeal to laymen. We miss the name of Bruce in connection with trypanosomiasis, and though the excellent Campagna experiment of 1900 was useful for advertisement, it can really scarcely be cited as conclusive proof of the mosquito theory of malaria.

The author seems to be rather optimistic as to the results of sanitation in West Africa, regarding

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